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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/611,863	07/03/2003	Ulrich Muller	239953US0X	3849
22850	7590	05/23/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			KEYS, ROSALYND ANN	
			ART UNIT	PAPER NUMBER
			1621	

DATE MAILED: 05/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/611,863

Applicant(s)

MULLER ET AL.

Examiner

Rosalynd Keys

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) 9 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-7, 9 and 10 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

1. Claims 1-10 are pending.
Claims 1-7 are rejected.
Claim 8 is cancelled.
Claims 9 and 10 are withdrawn from consideration.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 9, 2005 has been entered.

Election/Restrictions

3. See previous office action, mailed June 29, 2004.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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6. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muller et al. (US 2003/0078311 A1) in view of Hamilton (US 3,328,467).

Muller et al. teach a process for preparing polyether alcohols, which comprises the alkoxylation of an organic compound, which is capable of being alkoxyated, in the presence of a catalyst system comprising a metallo-organic framework material comprising pores and at least one metal ion and at least one bidentate organic compound (see entire disclosure, in particular paragraphs 0006, 0010-0017, 0034-0061, and 0066-0069).

Muller et al. differ from the instant claims in that Muller et al. do not expressly teach reacting a monool with at least one alkoxyating agent to obtain a polyoxyalkylene alcohol comprising 1 to 5 alkoxy units. However, Muller et al. clearly suggest such a reaction, since Muller et al. teach that in principle all organic compounds, which can be alkoxyated, may be used and Muller generically teaches the use of any known alkoxyating agent, with a preference for mono- or multifunctional epoxides having 2 to 30 carbon atoms (see paragraph 0014). Thus, although not expressly named by Muller et al., monools are implicitly taught, since they are organic compounds which are known to be alkoxylatable (see column 2, lines 9-16) and the product obtained from its alkoxylation with an epoxide yields a polyoxyalkylene alcohol having 1 to 5 alkoxy units (see for instance example 1 of Hamilton).

7. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mueller et al. (DE 1011230, which is equivalent to US 2004/0097724 A1) in view of Hamilton (US 3,328,467).

Mueller et al. teach an organometallic microporous framework material comprising a metal ion and at least one bidentate organic compound for use as a catalyst in an epoxidation, etherification, or alkoxylation reaction (see abstract of the German patent and paragraphs 0006-0011, 0027-0028 and 0043 of its equivalent US patent).

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Mueller et al. fail to and disclose the reaction steps.

Hamilton teaches alkoxylation reactions involving the reaction of an alkylene oxide with a compound having an active hydrogen atom in the presence of a catalyst (see entire disclosure, in particular column 1, lines 8-12). The alkylene oxides disclosed as suitable include ethylene oxide, propylene oxide and butylene oxides (see column 1, line 58 to column 2, line 8). The compounds having an active hydrogen atom include methyl alcohol and ethyl alcohol (see column 2, lines 9-34). The products produced by this reaction include polyoxyalkylene alcohols comprising 1 to 5 alkoxy units (see column 2, line 35-64).

One having ordinary skill in the art at the time the invention was made would have found it obvious that the alkoxylation process disclosed by Muller et al. is conducted by the steps taught by Hamilton, especially since the disclosure of Hamilton was available about 35 years prior to the invention by Mueller et al.

8. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamilton (US 3,328,467) in view of Yaghi (US 5,648,508).

Hamilton teaches alkoxylation reactions involving the reaction of an alkylene oxide with a compound having an active hydrogen atom in the presence of a catalyst (see entire disclosure, in particular column 1, lines 8-12). The alkylene oxides disclosed as suitable include ethylene oxide, propylene oxide and butylene oxides (see column 1, line 58 to column 2, line 8). The compounds having an active hydrogen atom include methyl alcohol and ethyl alcohol (see column 2, lines 9-34). The products produced by this reaction include polyoxyalkylene alcohols comprising 1 to 5 alkoxy units (see column 2, line 35-64).

Hamilton differs from the instant invention in that they use aluminosilicates, such as zeolites A, X and Y as the catalyst (see column 3, lines 13-23), whereas the instant invention

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uses a catalyst comprising a metalloorganic framework material of metal ions and at least bidentate coordinately bound organic ligand.

Yaghi teaches a metalloorganic framework material of metal ions and at least one multidentate coordinately bound organic ligand, which are useful as a substitute for zeolite catalysts (see entire disclosure, in particular column 1, lines 24-55; column 3, lines 38-63).

One having ordinary skill in the art at the time the invention was made would have found it obvious to substitute the catalysts of Yaghi for the zeolite catalyst of Hamilton, since Yaghi teaches that use of his catalyst would allow one to prepare microporous materials which have controlled pore distributions and sizes, which was lacking in zeolites.

Response to Amendment

Claim Objections

9. The objection to claim 6 is withdrawn, due to the deletion of the word —epoxides—in the amendment filed May 9, 2005.

Claim Rejections - 35 USC § 102

10. The rejection of claims 1-7 under 35 U.S.C. 102(a) as being anticipated by Muller et al. (US 2003/0078311 A1) and the rejection of claims 1-5 are rejected under 35 U.S.C. 102(a) as being anticipated by Mueller et al. (DE 1011230, which is equivalent to US 2004/0097724 A1)) are withdrawn do to the amendment filed May 9, 2005, which requires that the polyoxyalkylene alcohol have 1 to 5 alkoxy units.

Response to Arguments

11. Applicants' arguments with respect to claims 1-7 under 35 U.S.C. 102(a) as being anticipated by Muller et al. (US 2003/0078311 A1) and the rejection of claims 1-5 under 35

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U.S.C. 102(a) as being anticipated by Mueller et al. (DE 1011230, which is equivalent to US 2004/0097724 A1) have been considered but are moot in view of the new ground(s) of rejection.

12. The Applicants' arguments with respect to claims 1-7 not being obvious over Muller et al. (US 2003/0078311 A1) under 35 U.S.C. 103(a) have been considered, but they are not persuasive because although Muller et al. do not expressly teach the use of a monool to prepare a polyoxyalkylene alcohol having 1-5 alkoxy units, Muller et al. do suggest such a reaction (see rejection above).

13. The Applicants' arguments with respect to claims 1-5 not being obvious over Mueller et al. (DE 1011230, which is equivalent to US 2004/0097724 A1) under 35 U.S.C. 103(a) have been considered but are not persuasive because Mueller et al. teach that the MOF catalysts may be applied to alkoxylation reactions (see paragraphs 0006-0013; paragraphs 0027-0028 and paragraph 0043). Alkoxylation reactions are generally known to be based on the reaction of an alkoxylatable compound with alkylene oxide in the presence of a catalyst (see for example Hamilton, US 3,328,467). One having ordinary skill in the art would expect that Mueller et al. has applied this customary meaning to their use of the term alkoxylation. The reaction between the alcohol and acetylenes or allenes disclosed in paragraphs 00311-00321 of Mueller et al. is not an alkoxylation reaction. Further, Mueller et al. disclose this reaction in paragraphs 00311-00321 as a reaction of a C-C triple bond and not as an alkoxylation (see paragraph 0030).

14. The Applicants' arguments with respect to the rejection of claims 1, 6 and 7 as being unpatentable over Muller et al. in view of Hamilton (US 3,328,467) have been considered but are not persuasive for the reasons given in the rejection of claims 1-7 above.

15. The Applicants' arguments with respect to the rejection of claims 1-7 under 35 U.S.C. 103(a) as being unpatentable over Hamilton (US 3,328,467) in view of Yaghi (US 5,648,508) have been considered but are not persuasive because although do not specifically disclose a

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reaction of a monool with at least one alkoxyating agent in the presence of the metal organic framework to obtain a polyoxyalkylene alcohol comprising 1 to 5 alkoxy groups, Yaghi do teach that the MOF catalyst is a significant improvement in the zeolite art (see column 3, lines 38-53). One use disclosed by Yaghi for zeolites is as catalysts (see column 1, lines 24-33). Yaghi teaches that the widespread application of these so called zeolitic materials is due to their ability to include molecules and ions in a selective and reversible fashion, which is a property conferred by the stability and rigidity of their porous framework (see column 1, lines 28-32). One having ordinary skill in the art would be motivated to utilize a microporous material that has an improvement in this important property. Thus, the skilled artisan would have been motivated to substitute the microporous material of Yaghi for the aluminosilicate of Hamilton in order to achieve the advantages offered by the use of the microporous material.


For the above reasons the Examiner believes that the instant claims 1-7 are obvious.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rosalynd Keys whose telephone number is 571-272-0639. The examiner can normally be reached on M and F 3:00-8:00 pm and T-TR 5:30-10:30 am.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Rosalyn Keys
Primary Examiner
Art Unit 1621

May 18, 2005